

REMARKS

Reexamination and reconsideration of the application as amended are requested. Support for the added language that the crossover-grooved portion has at least one crossover groove 40 and that every part of every crossover groove 40 of the crossover-grooved portion 28 is disposed radially inward of the ledge 22 is found in figures 2, 3 and 6.

The examiner's rejection of claims 1-13 as being "obvious", under 35 U.S.C. 103, is respectfully traversed. The examiner rejects these claims as being unpatentable over Nilsson in view of Henchert. Claims 2-6 depend from claim 1, and claims 8-12 depend from claim 7.

Claims 1, 7 and 13 require that the crossover-grooved portion 28 of the crossover member 14 have at least one crossover groove 40 and that every part of every crossover groove 40 of the crossover-grooved portion 28 be disposed radially inward of the ledge 22 of the outer surface 18 of the ball nut 12.

Nilsson discloses a ball nut 1 having a groove 8 with a recess/ledge 10 wherein the roof 7 of the re-circulation member 4 rests on the recess/ledge 10. Nilsson also discloses radial punchings 11 which fix the re-circulation member 4 into the groove 8. From the exterior top view of figure 3, it is clear that the radial punchings 11 are punchings in the ball nut 1 and not punchings in the re-circulation member 4. This means that the ball nut 1 is ductile. Since figure 4 shows that there is no undercut wall of the groove 8, radial punchings 11 must create a transversely and ductilely elongated portion in the nut 1 which fixes the re-circulation member 4 into the groove 8. This is opposite to applicants' claims 1, 7 and 13 which require the crossover member 14 to have the transversely and ductilely elongated portion 30 and 32. Applicants' claims 1, 7 and 13 also require the ball nut 12 to have an undercut wall 24 which is not taught, suggested or described in Nilsson.

The examiner has cited Henchert which discloses (e.g., in figures 7 and 8) a paint can body blank 4 having a depressed portion 10 having an undercut sidewall 13) and an ear 2 (for receiving a carrying bail 3 seen in figure 1) having a curl 7 creating a bead 5 disposed in the

Serial No.: 10/001,715  
Attorney Docket No.: DP-305919  
Amendment

depressed portion 20 (see figure 7) for a press 6 to flatten the bead 5 (see column 2, lines 66-69) into contacting the undercut sidewall 13 (see figure 8). The bead 5 is merely flattened and is not ductilely elongated as required by applicants' claims. Nevertheless, the examiner seems to consider it obvious from Henchert to create an undercut wall in the ball nut 1 of Nilsson and to create radial punchings in the roof 7 of the re-circulation member 4 of Nilsson to produce a transversely and ductilely elongated portion of the re-circulation member 4 . That would not be something one of ordinary skill in the art would find it advantageous to do because one would thereby also deform the roof 7 of the re-circulation member 4 against the ball 3 (see figure 3 in Nilsson) which would make the ball nut assembly inoperative.

Further, applicants claims 1, 7 and 13 also require that the crossover-grooved portion 28 of the crossover member 14 have at least one crossover groove 40 and that every part of every crossover groove 40 of the crossover-grooved portion 28 be disposed radially inward of the ledge 22. This allows a radial punching of the flange 26 of the crossover member 14, which is supported by the ledge 22 of the ball nut 12, to create the transversely and ductilely elongated portion 30 and 32 of the flange 26 of the crossover member 14 which contacts the undercut wall 24 of the ball nut 12 all without also deforming any part of any crossover groove 40. From figure 4 of Nilsson, it is seen that the crossover-grooved portion (roof 7) of the re-circulation member 4 of Nilsson is disposed above the ledge/recess 10, and that a radial punch to the flange of the roof 7 of the re-circulation member 4 will also deform the roof 7 against the ball 3.

Inasmuch as each of the rejections has been answered by the above remarks and amended claims, it is respectfully requested that the rejections be withdrawn, and that this application be passed to issue.

Respectfully submitted,



Douglas E. Erickson

Reg. No. 29,530

Serial No.: 10/001,715  
Attorney Docket No.: DP-305919  
Amendment

THOMPSON HINE LLP  
2000 Courthouse Plaza NE  
10 West Second Street  
Dayton, Ohio 45402-1758  
(937) 443-6814

327769